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Healthcare Professionals' attitudes, knowledge and self-efficacy levels regarding the use of self-hypnosis in childbirth: a prospective questionnaire survey.

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Abstract

Objective

To examine healthcare professionals' attitudes, knowledge and levels of self-efficacy regarding the use of self-hypnosis in childbirth.

Design

A prospective survey.

Setting

Two large maternity units in London, England.

Participants

Healthcare professionals (n=129) involved in the care of childbearing women (anaesthetists, midwives and obstetricians)

Methods

Online questionnaire assessing healthcare professionals' experience, knowledge, attitudes and self-efficacy relating to self-hypnosis in childbirth.

Main Outcome Measures

Attitude, self-efficacy and knowledge.

Findings

Over half of the participants surveyed (56%) reported they had minimal or no knowledge of hypnosis. Higher levels of knowledge were associated with higher levels of self-efficacy ($p<0.001$) and also with more positive attitudes ($p<.001$). Midwives reported significantly higher levels of

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knowledge, more positive attitudes (7.25, 95% CI: 4.60-9.89) and higher levels of self-efficacy (3.48, 95% CI: 1.46-5.51) than doctors. Midwives also reported more exposure to/experience of hypnosis than doctors, and more exposure was significantly associated with higher levels of selfefficacy (midwives p<.001; doctors p=.001). Professionals who would plan to use self-hypnosis in their own or partners' births had significantly higher self-efficacy scores (p<.001).

Key conclusions

If healthcare professionals are to effectively support women using selfhypnosis in childbirth, they need to be confident in their ability to facilitate this method. Previous research has established that selfefficacy is a strong indicator of performance. Multi-disciplinary training may improve healthcare professionals' knowledge, confidence and attitude to hypnosis.

Implications for practice Professionals with more knowledge of selfhypnosis are also more confident in supporting women using this technique in childbirth. Multi-disciplinary staff training which aims to increase knowledge, and which includes exposure to hypnosis in labour, may be beneficial in assisting staff to support women choosing to use selfhypnosis in labour.

Keywords: Attitudes; knowledge; self-efficacy; healthcare surveys; childbirth; self-hypnosis.

Introduction

Evidence suggests that fear and anxiety during pregnancy is associated with outcomes such as emergency and elective caesarean section, increased need for pain relief in labour, low birth weight infants and poorer perinatal mental health (Zar et al, 2001; Wijma et al, 2002; Dunkel Schetter & Tanner, 2012; Hall et al, 2012). There has been an increase in research into antenatal psychological techniques which aim to reduce anxiety and improve maternal satisfaction and perinatal mental health, and reduce pain, medical interventions and requests for caesarean sections (Fontein-Kuipers et al, 2014). These techniques include yoga, meditation, mindfulness, hypnosis, and psychoeducational therapies. A recent meta-analysis of such antenatal interventions showed a small but significant reduction in maternal distress in at-risk women (Fontein-Kuipers et al, 2014).

Hypnosis is one of these techniques which involves an altered state of consciousness that reduces awareness of the external environment, whilst increasing receptivity to suggestions, in order to facilitate changes in behaviour and perception (Gamsa, 2003). During childbirth, suggestions focus on increasing feelings of relaxation, comfort, safety and reducing anxiety and fear (Madden et al, 2016). The Mongan Method and Natal Hypnotherapy are two antenatal education programs which teach self-hypnosis to childbearing women and are widely available in high-income countries (Howell, 2009; Mongan, 2005).

Self-hypnosis can be used independently by women and may enhance feelings of self-confidence, empowerment and well-being (Simkin & Bolding, 2004). Interest in and use of self-hypnosis in labour is increasing (Whitburn et al, 2014; Werner et al, 2013; Walker et al, 2009; Wainer, 2001). In a national survey of 23,000 women using maternity services in England in 2013 by the Care Quality Commission, 34% of women planned to use hypnosis, breathing and massage when giving birth (Care Quality Commission, 2013). The US report 'Listening to Mothers III' surveyed 2400 women who gave birth in hospital. This report revealed that 25% of women used mental techniques such as relaxation, visualisation and hypnosis in labour (Declercq et al, 2013).

There is some evidence of effectiveness in non-maternity clinical areas, showing hypnotherapist-led hypnosis and self-hypnosis are effective in reducing fear and anxiety (Lang et al, 2008; Marc et al, 2009; Saadat et al, 2006; Moore et al, 2002). In maternity, a Cochrane review concluded that hypnosis may reduce the overall use of pharmacological analgesia during labour although not epidural use, but further high-quality research is needed (Madden et al, 2016). Since this review, there have been three large randomised-controlled trials undertaken in Denmark, Australia and the UK (Werner et al, 2013; Cyna et al, 2013;

Downe et al, 2015) which studied the efficacy of hypnosis and found no significant reduction in the primary outcome (use of epidural anaesthesia). However, the recent UK-based SHIP Trial (Self-Hypnosis for Intrapartum Pain) did find a significant reduction in postnatal fear and anxiety (Downe et al, 2015).

The trials studying self-hypnosis in childbirth (Werner et al, 2012; Cyna et al, 2013; Downe et al, 2015) had a number of limitations. In all three studies hypnosis training was delivered via two or three 45-60 minute sessions in the third trimester of pregnancy. These studies do not tell us whether longer courses started in early pregnancy would improve efficacy; this is relevant because self-hypnosis in childbirth courses typically involve 12 hours of face-to-face teaching.

In relation to their trial, Werner et al (2013) commented that midwives had little or no knowledge of hypnosis, and this lack of awareness may have hindered the hypnotic process. If clinicians are not aware that women are using self-hypnosis, or if they have little knowledge of the technique, a woman's ability to use hypnosis in labour may be inhibited. Previous studies in other acute clinical settings, found improved effectiveness when both hypnosis and training of staff in supporting patients using hypnosis was implemented when compared with hypnosis alone (Lang et al, 2000; Lang et al, 2006; Lang et al, 2008). Self-efficacy refers to a person's estimate of his or her ability to perform a specific task successfully (Sandall et al, 2010). Perceived self-efficacy is an important element of behaviour, enabling people to act on intentions and try previously feared actions (Ajzen & Madden, 1986; Gollwitzer, 1993). Bandura's Theory of Self-Efficacy (Bandura, 1977; 2012) and the Theory of Planned Behaviour (Ajzen, 1991) propose a model about how human behaviour is guided. This model is increasingly used to predict attitudes and intentional

behaviour in relation to clinical actions (Eccles et al, 2006). Organisational research has shown that self-efficacy can predict the performance of an individual, and therefore is a valuable way of evaluating healthcare professionals' behaviour and support of women using self-hypnosis in childbirth.

Given the lack of published data about healthcare professionals' knowledge of hypnosis, this study aimed to examine staff knowledge, attitudes, experience of and self-efficacy levels relating to the use of hypnosis in childbirth in two UK maternity units, and examine associations between these factors. This study therefore aimed to address the following research questions:

In relation to self-hypnosis in childbirth:

- What is the level of knowledge, self-efficacy and attitudes reported by healthcare professionals and does this differ between midwives and doctors?
- What is the association between healthcare professionals' attitudes and self-efficacy and does this differ between midwives and doctors?
- Is there an association between:

  Level of knowledge and: (a) self-efficacy and (b) attitude?

  Self-efficacy levels and: (a) exposure (witnessing self-hypnosis in childbirth) and (b) personal preference regarding use of self-hypnosis?

Methods

Ethics & Governance

This study was approved by a University Research Ethics Committee (Reference: PNM/14/15-75). Research governance, and managerial approval was provided by participating sites.

Participants, setting, and recruitment

Participants were included if they were a qualified midwife, anaesthetist or obstetrician currently working in maternity services. Participants were excluded if they were students or retired. Participants (n=129) were all healthcare professionals (midwives, obstetricians and anaesthetists) involved in providing maternity care at two large inner London maternity units. An invitation email was sent to these staff groups via the staff email distribution lists. The email included a direct link to the online survey which included the participant information and confirmed consent.

Validation, piloting and questionnaire and scale development

In the absence of an existing validated tool on this subject, a validated questionnaire of complementary medicine (Complementary and alternative medicine Health Belief Questionnaire: CHBQ) was adapted. The CHBQ demonstrates internal consistency (Cronbach's coefficient alpha was 0.75), reliability and validity (Lie & Boker, 2004). Items were also adapted from pre-existing surveys used in studies which examined knowledge, attitudes and self-efficacy (Coldrey & Cyna, 2004; Eng & Cyna, 2006; Stewart et al, 2014; Sandall et al, 2010).

A pilot questionnaire was developed to examine healthcare professionals' knowledge, confidence and attitudes to self-hypnosis in childbirth. The questionnaire was reviewed and developed using cognitive interviewing, a technique in which the interviewer asks the interviewee to give a concurrent verbal account of their thinking as they read and complete the survey (Drennan, 2013). Four healthcare professionals (three midwives and an obstetrician) with experience of caring for pregnant women and research reviewed the questionnaire for clarity, understanding and completion time, ensuring face and content validity. Minor adjustments were made following piloting.

The final questionnaire contained five sections: demographic data, level of knowledge, exposure to and training in hypnosis, and a series of Likert-type statements relating to attitudes to self-hypnosis in childbirth (ten items), level of self-efficacy in supporting women to use self-hypnosis in childbirth (five items) and personal preferences (ten items). Participants were required to complete all sections of the questionnaire. Participants were invited to add open text comments, to allow them to provide extra information about their views which the questions might not capture. The invitation email was distributed with a weblink to the participant information and the questionnaire. A reminder email was sent two weeks after the initial email.

Analysis

Data were entered into Microsoft Excel and imported into IBM SPSS Statistics Version 22 for analysis.

The maternity units participating in this study were not able to provide reliable staffing data. Whilst it was possible to establish the number of staff who worked in the maternity care setting, there was no way to identify how many staff were directly deployed in labour wards or other birth settings; others may have been providing mainly antenatal or postnatal care and may not have felt the survey was relevant to them. Additionally it was not possible to establish speciality doctors; such as anaesthetists specialising in obstetrics, or obstetricians who work only in gynaecology. Therefore sample representativeness was assessed using staffing data provided by the NHS maternity provider.

A factor analysis of the self-efficacy and attitude scales was undertaken to establish whether items grouped under single or multiple factors using MPLUS v4.2. This ensured that the scales measuring the chosen concepts were valid and reliable (Muthén & Muthén, 2007). Internal consistency was assessed using Cronbach's alpha. The Chi-squared test was used to analyse associations between pairs of categorical variables (including ordinal variables) and the Pearson correlation coefficient for associations between continuous variables. Independent groups T-test and general linear models (GLM) were used to test the null hypothesis of no difference between midwives and doctors and to test for association between categorical independent variables and attitude and self-efficacy scores. The GLM was used to calculate category means (knowledge of self-hypnosis, plans to use self-hypnosis) adjusted for professional group and have been presented along with 95% confidence intervals (95% CI). Category means were compared in pairs with probability values corrected for multiple comparison (Bonferroni). A probability (P) value of $< .05$ was used to indicate whether a statistical hypothesis was rejected or not.

Results

Demographics

Altogether, 132 members of staff took part. As three respondents did not meet the inclusion criteria, 129 responses were analysed (101 from midwives, 15 from obstetricians and 13 from anaesthetists). The majority were female (91%, 118), and from a white ethnic background (84%, 109). Participants were fairly evenly distributed between age groups, with the largest group practicing for between 6 and 10 years in maternity services (28%, 37). A full description of respondents' characteristics is reported in Table 1.

The sample was made up of doctors (22%) and midwives (78%); this reflects the proportion of doctors and midwives in the maternity units where recruitment took place. More respondents were female than male in the sample which reflects the gender differences within the professions recruited, as the majority of midwives are women. Respondents from white ethnic backgrounds appear to be over represented (84% vs 60%) and black and ethnic minorities (15% vs 31%) underrepresented in the sample, when compared to the staffing populations of Trust A & B.

Attitudes and self-efficacy items were loaded onto a single dominant factor and there were no other factors with an eigenvalue greater than one (1st and 2nd factor eigenvalues: attitudes 6.56, 0.77; self-efficacy 4.04, 0.52). A single dominant factor provided the justification for summing the items to produce a total score for attitudes, and a total score for self-efficacy, for each participant. Both the attitude and the self-efficacy items had good internal consistency with Cronbach alpha coefficient values above 0.8 (0.91 and 0.91 respectively).

Level of knowledge, attitude and self-efficacy

Overall, 59% (n=76) of participants had undertaken no training or education in self-hypnosis, 28% (n=36) had read around the subject personally and 12% (n=16) had undertaken formal training, such as study days and training courses for expectant parents or to become a self-hypnosis teacher.

Respondents were asked to report their level of knowledge of hypnosis in childbirth. Over half the participants surveyed (56%) reported they had minimal or no knowledge of hypnosis (see Table 2). The higher the knowledge score, the more positive an attitude or more confident the respondent felt in caring for women using self-hypnosis.

The scale developed to measure self-efficacy was given the label 'Modified Self-efficacy Scale for supporting self-hypnosis in childbirth' (range 5-25; the higher the score the higher the self-efficacy). The average mean total score for this scale was 16.4. The scale developed to measure attitude was given the label 'Modified Attitude Scale for self-hypnosis in childbirth' (range 10-50; the higher the score the more positive attitude to self-hypnosis). The average mean score for this scale was 38.8. See Table 3.

Differences between midwives and doctors

This study found there were significant differences between midwives and doctors responses. Midwives reported more knowledge of self-hypnosis in childbirth than doctors (χ^2= 14.9, 3 degrees of freedom, *p=.002*), higher levels of self-efficacy in supporting women to use self-hypnosis (mean difference = 3.48, 95% CI: 1.46 to 5.51, p=.001) and had a more positive attitude to self-hypnosis than doctors (mean difference = 7.25, 95% CI: 4.60 to 9.89, p<.001) (Tables 2 & 3). There was no difference in levels of education and/or training in self-

hypnosis between professions (Midwives 44% (44) vs. Doctors 29% (8), χ^2= 2.16, 1 degree of freedom, p=.14).

Relationships between healthcare professionals' attitudes and self-efficacy

There was a strong and significant relationship between health professionals' attitudes and self-efficacy (r = 0.67 p = <.001). This relationship was stronger for midwives than doctors (r=0.69, p<.001 vs. r=0.34, p=.086).

The relationship between a respondent's reported knowledge of self-hypnosis in childbirth, attitudes and self-efficacy is shown in Table 4. The relationship between knowledge and attitude, adjusting for professional group, was statistically significant (F[3,118] =16.38, p<.001). In addition, the relationship between knowledge and self-efficacy, adjusting for professional group, was statistically significant (F[3,117] =37.01, p<.001).

The participants were asked how likely they would be to plan to use self-hypnosis for their own labour and birth (Table 4). Categories were collapsed into three groups (*strongly agree/agree, uncertain, disagree/strongly disagree*) to accommodate the smaller number of responses from doctors. The positive relationship between planning to use self-hypnosis and higher self-efficacy scores, adjusting for professional group, was statistically significant (F[2,118] =31.75, p<.001).

Direct experience (witnessing self-hypnosis in childbirth) was significantly positively associated with higher levels of self-efficacy in midwives (p<.001) and doctors (p=.001). See Table 5.

Themes from free-text comments

Out of 132 respondents, 34 (six doctors and 28 midwives) chose to write a comment at the end of the survey. The majority of participants who made a comment reported both the potential positive and negative effects of self-hypnosis.

Comments that were supportive of self-hypnosis described its benefits in assisting relaxation, increasing feelings of control and as a method of relieving pain in labour, especially for women experiencing anxiety.

Comments that challenged the benefits of self-hypnosis, with respondents' reporting a lack of communication between healthcare professionals and women, and a perception that women using self-hypnosis were not flexible/receptive if their labours deviated from what women had planned. Respondents also felt some women using self-hypnosis held unrealistic expectations of labour and felt 'like failures' when they used other forms of pain relief.

Several staff commented that they perceived that women using self-hypnosis had a delay during the second stage or pushing stage of labour, and that a reluctance to push or try methods suggested by staff may impede a spontaneous vaginal birth.

Some respondents used free text to highlight that they felt they lacked knowledge and education in relation to self-hypnosis.

Discussion

Main Findings

This research found higher levels of knowledge were associated with a more positive attitude towards self-hypnosis and higher levels of self-efficacy in midwives and doctors. Exposure

to hypnosis in practice was directly related to higher self-efficacy scores, as was a preference to plan to use self-hypnosis in childbirth personally. Midwives reported higher levels of knowledge, more positive attitudes and higher levels of self-efficacy when compared with doctors, and reported more exposure/experience of hypnosis. Free text comments captured both positive and negative views, reporting potential communication issues that self-hypnosis might present for practitioners. Staff also commented on the limitations of their knowledge of the technique.

Strengths and Limitations

This is the first study which has examined the relationship between knowledge, confidence and attitude to self-hypnosis use in childbirth. The survey was a short, web-based questionnaire appropriately targeted at the maternity team providing care at two large maternity units. In the absence of a validated questionnaire or scale which examines self-efficacy and/or attitudes to hypnosis, either in the context of childbirth or for healthcare purposes, a questionnaire was developed by adapting several pre-existing questionnaires and using cognitive interviewing. A strength of this study is that the items used to measure self-efficacy and attitude were assessed psychometrically and demonstrated to have high internal reliability.

A limitation of this study is that due to the sampling method we were unable to calculate a response rate. However, representativeness was assessed and the survey sample did reflect the total population reasonably well, although black and ethnic minorities were under-represented. This study also relied on self-reports and therefore results may have been affected by recall and response bias. The sample was drawn from two units from a similar geographical area of London, which may limit generalisability to other regions. Although

there is no published research about hypnosis in childbirth and attitude, studies on attitudes to complementary and alternative medicines (CAM) also found there were a relatively small number of responses from anaesthetists and obstetricians. Therefore doctors were examined in one group, allowing for comparisons between midwives and doctors but not enabling comparisons between types of doctors involved in maternity care.

Interpretation

Despite a lack of large, high quality trials which demonstrate that self-hypnosis is effective for use in childbirth, there is an argument that healthcare professionals still need to be informed on the technique as women are choosing to use this method. Professionals need to be aware of how to care for women using hypnosis if they are to provide woman-centred care.

This study found that respondents with higher levels of knowledge displayed higher self-efficacy and more positive attitudes towards hypnosis. Evidence suggests that attitude is a critical component in how healthcare professionals practise, and is influenced by educational experience and/or exposure to CAM (Schneider et al, 2003). Scott (1984) found anaesthetists' attitudes to general clinical hypnosis improved when they had more information on the topic (Scott, 1984). Although Scott's study had a small sample size, these findings were replicated in our research, which found a higher level of reported knowledge was correlated with an increase in positive attitude to self-hypnosis in childbirth. Although the focus of the research was different, a simulated assessment of skills for supporting normal birth (Sandall et al, 2010) found that professionals with higher levels of self-efficacy and a more positive attitude towards normal birth, displayed higher performance levels in the simulated assessment (Sandall et al, 2010).

In the field of CAM use in obstetrics, midwives were also found to have a more positive view (Gaffney & Smith, 2004) and be more likely to recommend the use of CAM (Stewart et al, 2014) than doctors. The difference between midwives' and doctors' attitudes and self-efficacy levels found in this study may be reflective of the difference in professional philosophies of midwives and doctors. Self-hypnosis in childbirth focuses on improving women's confidence, self-belief and ability to remain calm and relaxed and is consistent with an expectant or physiological approach of birth (Howell, 2014). This perspective may be at odds with the biomedical interpretation of birth as potentially pathological (Bewley & Foo, 2011).

The degree of exposure (number of women witnessed) to self-hypnosis in childbirth was positively correlated with an increase in staff self-efficacy levels. This was found in both midwives and doctors, but to a larger degree within doctors. Midwives had witnessed more women using self-hypnosis, which may explain their higher levels of self-efficacy when compared with doctors. In previous research, exposure seems to be positively associated with other factors, such as a belief that training in hypnosis should be provided for healthcare professionals (Coldrey & Cyna, 2004). Professionals who had observed hypnosis were also more likely to express a positive attitude and were supportive of the inclusion of hypnosis in undergraduate training (Eng & Cyna, 2006). Almost 80% of anaesthetists who had witnessed clinical hypnosis found the experience had positively affected their attitudes (Coldrey & Cyna, 2004).

In common with Stewart et al's research (2014) on complementary therapies, professionals' personal preference to use self-hypnosis in labour was associated with an increase in self-

efficacy levels, highlighting the impact of healthcare professionals' personal preferences on their professional confidence.

Implications for research

The free-text comments raised interesting issues, beginning to create a wider picture of professionals' opinions. Although a systematic review found no reports of adverse effects attributed to hypnosis (Cyna, 2004), the themes raised relating to communication between women and staff, and the second stage of labour, warrant further research. A qualitative study which aims to gain an in-depth insight into healthcare professionals' views would be useful to explore this further. Further research is also needed to examine whether educating healthcare professionals would increase the efficacy of self-hypnosis on birth outcomes.

It would be beneficial for future research into the efficacy of self-hypnosis to include a survey of staff attitudes and self-efficacy, as this study shows that negative staff attitude is associated with low levels of confidence in supporting women. Previous research has found a relationship between low self-efficacy levels and poorer performance (Sandall et al, 2010). Knowledge of staff attitude and confidence may be an important, and to date, unrecognised factor that should be considered in the interpretation of trials testing the effect of self-hypnosis in childbirth. Existing studies testing the efficacy of hypnosis in childbirth have not explored whether staff attitudes and confidence have a modifying effect on outcomes. The research team for the SHIP trial conducted interviews with participants from the intervention group which highlighted a lack of staff awareness of the impact of hypnosis on women's manner in labour. Lack of awareness of how women's behaviour during labour might be different if they are using self-hypnosis is potentially worrying, especially if staff rely on level of distress or discomfort in their assessments when women are in labour; in the SHIP

trial, women reported staff misinterpreting their relaxed state as a sign that they were not in active labour (Finlayson et al, 2015). This highlights important safety considerations when assessing women using self-hypnosis in labour in person or on the phone in order to avoid delays or prevent poor communication in intrapartum care. Future trials should consider a design which looks at self-hypnosis as a complex intervention and therefore includes a process evaluation, and interviews with staff and women using self-hypnosis.

Implications for practice

This study found that witnessing hypnosis during labour has a positive effect on staff attitudes towards self-hypnosis and confidence in looking after women using this technique. Finlayson et al's research suggests that service providers should ensure staff are aware that women using self-hypnosis may exhibit altered behavioural norms in labour (Finlayson et al, 2015). Maternity service providers looking at providing training for healthcare professionals should include hands-on experience and/or simulated learning techniques. It would be advisable that training take on a multi-disciplinary approach, as self-hypnosis is not restricted to 'low risk pregnancies' and although midwives are the main professional care providers in normal pregnancy and childbirth (NICE, 2014; NICE, 2011), promoting a positive birth experience and supporting women's choices is part of all healthcare professionals' duty of care.

Conclusion

Use of CAM during birth is becoming more widespread, and women increasingly plan to use self-hypnosis in labour. If healthcare professionals are to effectively support women using self-hypnosis in childbirth, they need to be confident in their ability to facilitate this method. This study found both midwives and doctors lacked knowledge of this method, although this

was more pronounced in doctors. This may be due to doctors reporting less exposure to women using hypnosis in practice. This study demonstrated that increased confidence is associated with a more positive attitude to hypnosis. Staff should be aware of how women using hypnosis may act differently in labour. This will ensure safe care is provided and staff are able to effectively support the choices women have made in pregnancy.

Disclosure of interests

None of the authors have any conflicts of interest or financial disclosures to declare.

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Table 1: Reported Demographics

	Midwives % (n)	Doctors % (n)	Total % (n)
Profession			
Midwife			78 (101)
Obstetrician			12 (15)
Anaesthetist			10 (13)
Gender			
Female	97 (98)	71 (20)	91 (118)
Male	3 (3)	29 (8)	9 (11)
Age (years)			
<25	9 (8)	0 (0)	6 (8)
25-29	19 (19)	4 (1)	15 (20)
30-34	18 (18)	18 (5)	18 (23)
35-39	17 (17)	25 (7)	19 (24)
40-44	4 (4)	14 (4)	6 (8)
45-49	15 (15)	18 (5)	16 (20)
>50	20 (20)	21 (6)	20 (26)
Ethnicity			
White	87 (88)	75 (21)	85 (109)
Mixed	5 (5)	7 (2)	5 (7)
Asian	3 (3)	11 (3)	5 (6)
Black	5 (5)	4 (1)	5 (6)
Other	0 (0)	4 (1)	1 (1)
Years practicing in profession			
<1	10 (10)	4 (1)	9 (11)
1-5	22 (22)	11 (3)	19 (25)
6-10	28 (28)	32 (9)	29 (37)
11-15	16 (16)	14 (4)	16 (20)
16-20	11 (11)	21 (6)	13 (17)
>20	14 (14)	18 (5)	15 (19)
Setting of work			
Antenatal (community)	15 (15)	4 (1)	12 (16)
Antenatal (caseload)	22 (22)	0 (0)	17 (22)
Antenatal (inpatient/clinic)	19 (19)	64 (18)	29 (37)
Intrapartum (home birth)	26 (26)	0 (0)	20 (26)
Intrapartum (consultant-led)	56 (57)	96 (27)	65 (84)
Intrapartum (midwife-led)	44 (44)	4 (1)	35 (45)

Postnatal (community)	14 (14)	0 (0)	11 (14)
Postnatal (caseload)	20 (20)	0 (0)	16 (20)
Postnatal (inpatient/clinic)	17 (17)	61 (17)	26 (34)
Non-clinical (researcher/manager/lecturer)	20 (20)	11 (3)	18 (23)
Level of training/education in self-hypnosis *			
No training	56 (56)	71 (20)	59 (76)
Personal reading	29 (29)	25 (7)	28 (36)
Formal training or study	15 (15)	4 (1)	12 (16)

*1 missing

Table 2 Reported level of knowledge: midwives compared with doctors

Reported Level of Knowledge	Midwives (n=100)		Doctors (n=28)		All (n=128)	
	%	(No.)	%	(No.)	%	(No.)
Extensive	7	(7)	7	(2)	7	(9)
Moderate	44	(44)	14	(4)	38	(48)
Minimal	41	(41)	46	(13)	42	(54)
None	8	(8)	32	(9)	13	(17)

Table 3 Self-Efficacy and Attitude scores: midwives compared with doctors

	Self-Efficacy				Attitudes			
Profession	**No.**	**Mean**	**SD**	**(range)**	**No.**	**Mean**	**SD**	**range**
All	122	16.43	4.83	(5 - 25)	123	38.83	6.72	(20 - 50)
Midwives	96	17.18	4.73	(5 - 25)	97	40.36	6.10	(26 - 50)
Doctors	26	13.69	4.22	(5 - 22)	26	33.12	5.85	(20 - 45)
		Mean	**(95% CI)**	**P**		**Mean**	**(95% CI)**	**P**
Difference		3.48	(1.46 - 5.51)	.001		7.25	(4.60 - 9.89)	<.001

Table 4 **Attitude score by knowledge of self-hypnosis, and self-efficacy score by knowledge of self-hypnosis and plans to use hypnosis in labour: midwives compared to doctors**

	All			Midwives			Doctors		
	No.	Mean	SD	No.	Mean	SD	No.	Mean	SD
Attitude Scores:									
Reported level of knowledge of self-hypnosis in childbirth									
Extensive Knowledge	9	46.33	5.32	7	48.71	2.21	2	38.00	4.24
Moderate Knowledge	47	42.11	5.22	43	42.42	5.14	4	38.75	5.56
Minimal Knowledge	51	35.98	6.01	40	37.30	5.40	11	31.18	5.86
No knowledge	16	34.06	5.39	7	36.86	5.27	9	31.89	4.62
Self-Efficacy Scores:									
Reported level of knowledge of self-hypnosis in childbirth									
Extensive Knowledge	8	22.63	4.10	6	24.83	0.41	2	16.00	0.00
Moderate Knowledge	47	19.55	2.97	43	19.53	3.06	4	19.75	2.06
Minimal Knowledge	51	14.29	3.51	40	14.38	3.77	11	14.00	2.49
No knowledge	16	11.00	3.76	7	12.14	4.06	9	10.11	3.48
In order to relieve pain in labour I would plan to use hypnosis									
Strongly agree/agree	63	19.35	3.64	57	19.61	3.62	6	16.83	2.93
Uncertain	36	13.58	4.05	25	13.12	4.12	11	14.64	3.85
Disagree/Strongly disagree	23	12.91	3.79	14	14.50	3.23	9	10.44	3.36

Table 5 **Self-efficacy score by how often a person has witnessed self-hypnosis in childbirth: midwives compared to doctors**

Women witnessed using self-hypnosis in childbirth (No.)	Midwives				Doctors			
	No.	**Mean**	**SD**	**(range)**	**No.**	**Mean**	**SD**	**range**
0-10	63	15.38	4.17	(5 - 25)	20	12.30	3.56	(5 - 17)
11 and over	33	20.61	3.78	(12 -25)	6	18.33	2.73	(15 - 22)
		Mean	**(95% CI)**	**P**		**Mean**	**(95% CI)**	**P**
Difference		5.23	(3.45 - 6.95)	<.001		6.03	(2.77 - 9.30)	.001

Highlights

- Over half of respondents reported minimal or no knowledge of self-hypnosis in childbirth.
- More knowledge of & exposure to self-hypnosis are linked with a more positive attitude & greater confidence in supporting women using this technique.
- Midwives reported more knowledge, confidence & a more positive attitude to selfhypnosis than doctors.
- Staff who would use self-hypnosis in their own childbearing were more likely to be confident in supporting women using the technique.